MCP SERVER | NO CODE | CLOUD HOSTED

Aviation Weather MCP for real-time data.

Get decoded weather and hazard reports directly in your AI client.

Aviation Weather MCP provides direct access to official NOAA Aviation Weather Center data. Your AI agent can pull decoded METAR observations, TAF forecasts, SIGMET/AIRMET hazards, and pilot reports for any airport. It handles the heavy lifting of decoding raw meteorological data into actionable flight categories like VFR, MVFR, IFR, or LIFR.

A+ Quality Score 96.67/100

aviation | weather | metar | taf | sigmet | airmet

MAINTAINED BY VINKIUS CLOUD FOR AI AGENTS · SEPTEMBER 2026
vinkius.com/en/ai-agent-connect/aviation-weather

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

Aviation Weather MCP

7 tools available
Cloud-hosted on Vinkius

You can now give your AI agent the same weather intelligence used by dispatchers and pilots. This MCP connects your client to the NOAA Aviation Weather Center, providing decoded data without requiring you to manage API keys. Instead of parsing raw text strings, your agent receives clear information on wind, visibility, cloud ceilings, and flight categories. You can check specific airport conditions, scan entire regions for hazards, or listen to real-time pilot reports regarding turbulence and icing. Whether you need to know if a specific terminal forecast will hold for an arrival or if a SIGMET is currently affecting a flight path, this MCP delivers the raw and decoded data needed to make informed decisions. It turns complex meteorological observations into direct answers about flightability and weather hazards.

Core Capabilities

01 — Weather Decoding

Your agent converts raw METAR and TAF text into clear flight categories like VFR or IFR.

02 — Hazard Monitoring

The agent tracks active SIGMET and AIRMET warnings across the contiguous United States.

03 — Real-time PIREPs

Your agent accesses actual pilot reports for turbulence and icing encountered in flight.

04 — Airport Discovery

The agent finds ICAO codes, tower status, and radio frequencies using bounding box searches.

05 — Regional Summaries

Your agent aggregates observations and hazards into a single view for a specific geographic area.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/en/ai-agent-connect/aviation-weather** — connect your AI agent in three steps.

01 Subscribe to the Aviation Weather MCP in the Vinkius catalog.

02 Connect your preferred MCP-compatible client like Claude or Cursor.

03 Ask your agent for weather at a specific airport or region.

04 The agent calls the necessary NOAA tools to fetch and decode the data.

05 Receive plain-English weather summaries and hazard reports.

Connecting to this weather data is a one-click process through Vinkius.

Built For

This MCP is built for aviation professionals who need to move from raw weather data to operational decisions quickly.

Flight Dispatchers

They hand off the task of monitoring weather trends and hazard updates to the agent.

Pilots

They use the agent to quickly check terminal forecasts and recent pilot reports for turbulence.

Flight Planners

They rely on the agent to identify SIGMETs and icing hazards that might require re-routing.

What Changes When You Connect

01 Eliminates the need to manually decode complex METAR and TAF text strings.

02 Provides direct access to official NOAA data without managing API credentials.

03 Consolidates observations, hazards, and pilot reports into single regional queries.

04 Translates meteorological data into standard flight categories for faster decision making.

Real-World Applications

Pre-flight Planning

Check the TAF and current METAR for a destination to determine if the flight category is VFR or IFR.

Route Hazard Assessment

Scan for SIGMETs and AIRMETs along a planned flight path to identify convective activity or icing.

In-flight Updates

Use pilot reports to check if turbulence reported by other crews is present in your current flight level.

Arrival Feasibility

Determine if a low ceiling at a destination airport will cause delays or diversions using decoded ceiling data.

Patterns to Avoid

Manual METAR Decoding

AVOID

You copy a raw METAR string into your chat and ask the agent to interpret the wind and visibility manually.

✓ INSTEAD

Use `list_observations` to get decoded, ready-to-read data for specific stations or regions without manual parsing.

Isolated Airport Checks

AVOID

You check the weather for one airport, then manually search for the next one on a different site to plan a route.

✓ INSTEAD

Run `summarize_area_conditions` to pull observations, SIGMETs, and PIREPs for an entire geographic area in one go.

Missing Real-Time Hazards

AVOID

You rely solely on terminal forecasts and ignore what pilots are actually reporting in the air.

✓ INSTEAD

Check `get_pilot_reports` to see real-time turbulence and icing reports from crews currently in flight.

The Right Fit

Connect this MCP if you are a dispatcher, pilot, or flight planner who needs to move from raw NOAA data to operational decisions without manual decoding. Do not connect this if you only need general consumer weather forecasts. The decision depends on whether you need decoded flight categories like VFR and IFR to make immediate routing or arrival calls.

7 Aviation Weather Tools for Real-Time Flight Intelligence

This MCP provides direct access to NOAA aviation data, converting raw meteorological strings into actionable flight categories and hazard reports.

#	TOOL	DESCRIPTION
01	`get_airport_weather`	This tool reads current weather at a specific airport. It provides decoded METAR observations including wind, visibility, and ceiling, along with the terminal forecast (TAF).
02	`find_airports`	This tool searches the FAA airport database for locations within a bounding box. It returns ICAO and IATA codes, names, tower status, and radio frequencies.
03	`list_terminal_forecasts`	This tool lists Terminal Aerodrome Forecasts (TAF) for specific station IDs or a defined area. It provides the forecast wind, weather, and cloud conditions as issued.
04	`list_observations`	This tool lists decoded METAR observations for stations or a geographic area. It includes wind, visibility, ceiling, temperature, and flight category for each station.
05	`get_pilot_reports`	This tool retrieves pilot reports (PIREPs) near an airport or within a bounding box. It captures actual in-flight reports of turbulence and icing at specific flight levels.
06	`list_significant_weather`	This tool lists active SIGMETs and AIRMETs over the contiguous United States. It includes details on convective, turbulence, icing, and low-ceiling hazards, including altitude and movement.
07	`summarize_area_conditions`	This tool aggregates observations, SIGMETs, and pilot reports for a specific area in one request. It provides a single view of flight categories and reported hazards for a region.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U What's the weather doing at Los Angeles International right now, and is it likely to hold for an arrival this evening?

At KLAX the observation at 1500Z is flight category MVFR. Wind is 190 degrees at 3 knots, visibility is 10 statute miles, with a scattered layer at 1,900 feet and an overcast ceiling at 2,400 feet. The TAF suggests the overcast will stay near 2,500 feet through the evening, so an arrival looks fine but the ceiling is worth re-checking.

U Is it flyable around Chicago this afternoon, or are flights being held?

In the Chicago area, 42 stations reported. 28 are VFR, 9 are MVFR, 4 are IFR, and 1 is LIFR. The IFR conditions are concentrated along the lakeshore where the ceiling is near 700 feet. No SIGMETs are active and pilot reports only mention light turbulence below 6,000 feet.

U Are there any SIGMETs in force right now, and is the turbulence over the Rockies real?

Eight convective SIGMETs are in force over the contiguous US. The strongest, SIGMET 95C, covers Colorado and Wyoming with tops to 35,000 feet. Pilot reports within 200 nautical miles of Denver confirm light-to-moderate clear-air turbulence between 14,000 and 17,000 feet.

Frequently Asked Questions

01 **Do I need an API key?**

No. This reads the public NOAA Aviation Weather Center Data API, which requires no key or account.

02 **Why is my airport code rejected?**

The observation endpoints take the 4-letter ICAO code only — KLAX, not LAX or ORD. Call find_airports with a bounding box (south,west,north,east) around the place and read the ICAO column; "@TX" is also accepted as a station list meaning every station in Texas.

03 **What do VFR, MVFR, IFR and LIFR mean?**

They are flight categories the source derives from ceiling and visibility: VFR is fine for visual flying, MVFR is marginal, IFR requires instrument qualification and LIFR is the worst — the conditions that hold departures and divert arrivals. summarize_area_conditions counts them across a region.

04 **What is a pilot report and why would I trust it?**

A PIREP is what a crew actually met in flight — turbulence or icing at a stated flight level, with the aircraft type and an intensity from LGT to SEV. It is the only measurement of conditions between the ground and cruise, and it is voluntary: an empty answer usually means nobody found anything worth reporting.

05 **Why are there no SIGMETs for my region outside the United States?**

This reads the domestic SIGMET and AIRMET products, which cover the contiguous United States. Observations themselves are global — METARs are filed for airports worldwide — but the hazard products are US-only, so summarize_area_conditions lists SIGMETs only for boxes over the US.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"aviation-weather": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

Aviation Weather is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

INDEPENDENT PLATFORM DISCLAIMER

Vinkius is an independent platform and is not affiliated with, endorsed by, sponsored by, verified by, or otherwise authorized by Aviation Weather. All third-party trademarks, logos, and brand names are the property of their respective owners. Their use in this document is strictly for informational purposes to identify service compatibility and interoperability.

DOCUMENT INFORMATION

Generated	September 2026
MCP Server	Aviation Weather MCP
Server ID	`01a0c443-f1c2-7069-83c2-2cdff3ca90a3`
Platform	Vinkius Cloud for AI Agents
Endpoint	`https://edge.vinkius.com/{token}/mcp`

LICENSE & USAGE

This document is generated automatically by the Vinkius PDF Engine. Content reflects the MCP server configuration at the time of generation and may change as updates are deployed. For the most current information, visit vinkius.com/en/ai-agent-connect/aviation-weather.